Executive Summary

Purpose of This Document:

This report is a data points update to the original 2007 Status and Condition Report prepared by the Seattle Department of Transportation (SDOT) through its Asset Management Program.

The report provides a description of the transportation infrastructure assets owned by SDOT; their value and condition; and the funding needed to maintain and preserve them. It provides a baseline to use in making decisions on asset management efforts in the Department, for process improvements and management decisions on the operation, maintenance, and preservation or replacement of SDOT-owned infrastructure.

The statistics provided in this report reflect the state of the assets as of December 2009 in most cases.

West Seattle Low-Level Bridge Serving a Major Industrial Area

Bridging the Gap Funding Package:

2007 marked the first year of the 9-year Bridging the Gap (BTG) funding package, a combination of a voter–approved transportation levy and a mayor/council-approved parking tax and employee hour tax. BTG funding supports transportation infrastructure maintenance and preservation, and has contributed nearly $40 million in 2007, and will contribute approximately $51 million in 2008.

A Variety of Assets Receiving BTG Funding

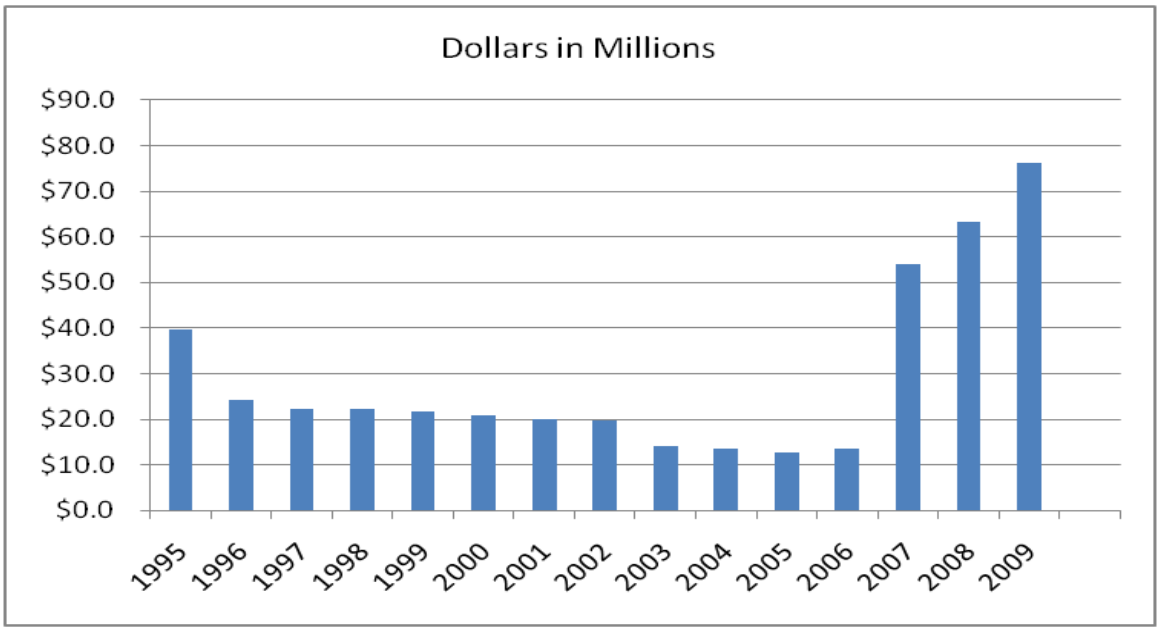
BTG was conceived as a 20-year levy program in response to 35 years of deferred maintenance that had been aggravated by years where the Department's dedicated transportation revenues had been shrinking. Between 1995 and 2006, the Department experienced a 66% loss in dedicated transportation funding, as the chart on the following page illustrates This decrease in funding is attributable to certain statewide tax-revenue-limiting initiatives and a mild recession in the early years of this decade.

The mayor and council supplemented SDOT's budget using other funding sources, including the general fund. However, because of competing citywide priorities, this was not a sustainable solution. Ultimately, the 20-year levy was abandoned and a 9-year program was set before the voters.

BTG has restored dedicated transportation revenues, and this funding is enabling SDOT to establish better maintenance and replacement programs.

In the intervening years, SDOT has programmed more than $50 million in each year from the BTG revenue sources and has achieved its yearly goals in a variety of asset categories, for maintenance or new construction. These accomplishments are noted in this update.

Dedicated Transportation Revenues 1995 - 2009



Assets/Transportation Infrastructure:

The hundreds of infrastructure assets owned by SDOT have been ordered into an asset hierarchy (see Appendix B) that contains 45 main types of assets, called "level 1" assets. This is the level at which SDOT will manage its assets. The level 1 assets have been grouped based on common functions into asset classes, a convenient grouping for reporting purposes. (See the accompanying table on page 9.)

SDOT-owned assets include a range, from substantial and long-lived structures such as bridges and pavement, to smaller, more frequently maintained assets, such as signs and marked crosswalks. SDOT also owns assets that are not traditional for a transportation department, such as the air raid siren tower which was constructed by SDOT's predecessor, the Seattle Engineering Department, in 1957.

SDOT's newest asset is the 2.6-mile streetcar line linking the Downtown with the South Lake Union neighborhood. A second streetcar line is now being planned, having been authorized under Sound Transit's voter –approved ballot measure in 2009. SDOT also has a regulatory, rather than ownership, interest in certain fixtures or installations that are in the public right-of-way (ROW), such as trees, landscaped areas, and areaways (vaults beneath the sidewalks). SDOT regulates and issues permits for these assets.

SDOT has an ownership interest in the fundamental asset underlying all of the infrastructure improvements: the ROW itself. Nearly 24.8% of the city's geographic area is held in trust by the city of Seattle, under the jurisdiction of SDOT, as public ROW. ROW has not been assigned a value or discussed within this report but is recognized as the essential base for all of the rest of the infrastructure that is SDOT responsibility.

Asset Condition:

A standard condition rating has been established for all SDOT level 1 assets.

Asset Condition Ratings

Condition Rating	Definition
Good	Asset is "as new" or requires only routine maintenance to keep it in service
Fair	Asset requires major rehabilitation to keep it in service
Poor	Asset should be replaced

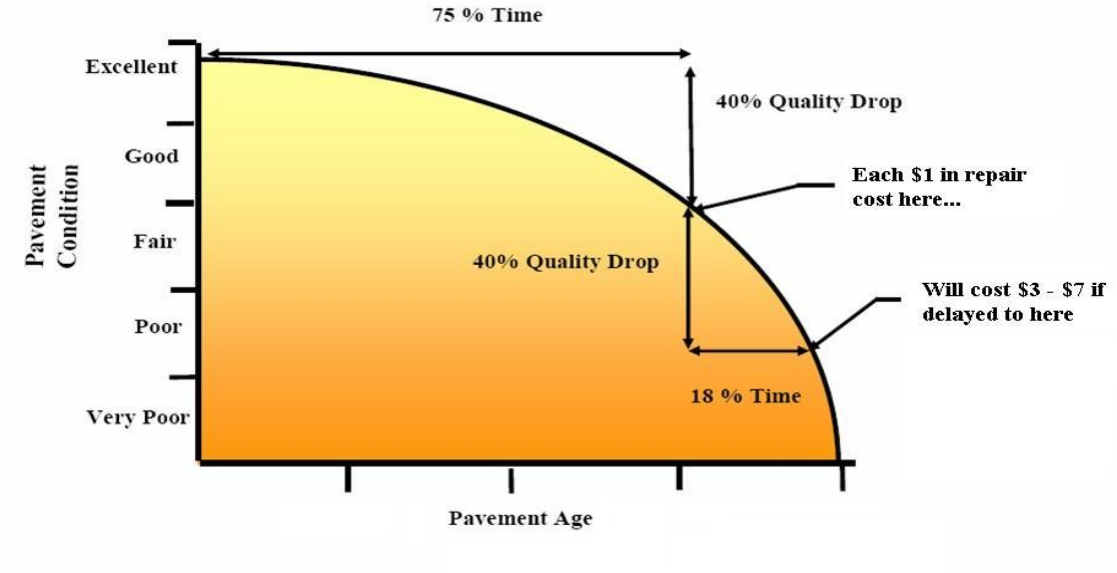
The accompanying table on page 9 presents the condition ratings, where known, for SDOT assets.

The condition of a significant portion of the infrastructure is reliably rated as good. For bridges and arterial pavement, the Department routinely assesses condition on a prescribed basis, and the majority of these assets are in good or fair condition.

The Department also has some significant infrastructure assets that are relatively new:

- ✓ The Department has migrated from single-space parking meters to pay stations that control multiple spaces. All of the pay stations are still within the initial warranty period and are considered "as new" or in good condition.
- ✓ The Department's newest asset, the Streetcar line in the South Lake Union neighborhood, opening in December, 2007, is also rated "as new" or in good condition.

Overall, the Department has verifiable condition ratings on assets that represent more than half of the overall current replacement value of the infrastructure. SDOT, like other urban transportation systems, faces the problem of deterioration of its assets which has primarily been driven by the historic lack of funding to sustain them in good condition. The deferred maintenance creates a danger of rapidly accelerating reconstruction costs once the asset deterioration reaches a certain "tipping point" that is illustrated by the deterioration curve . This curve graphically depicts the rising cost of repair when maintenance is delayed. The asset reaches a point where it requires major rehabilitation or reconstruction at significantly higher cost. The curve shown here is an illustration of the costs of pavement repair over time; as maintenance is deferred, costs increase dramatically:



The annual increase in the inventory of each asset also adds to the costs of future maintenance which, without corresponding increases in funding, means less money available to maintain existing assets and a decline in asset condition

Replacement Value:

"Replacement value" quantifies the total value of Seattle's transportation infrastructure. It represents what it would cost in 2009 dollars to replace all of SDOT assets, and does not imply that the entire infrastructure needs replacement. Knowing an asset's replacement value helps direct decision-making about investment strategies for repair or replacement. Postponing asset maintenance could result in earlier replacement rather than extending an asset's useful life if maintenance were performed.

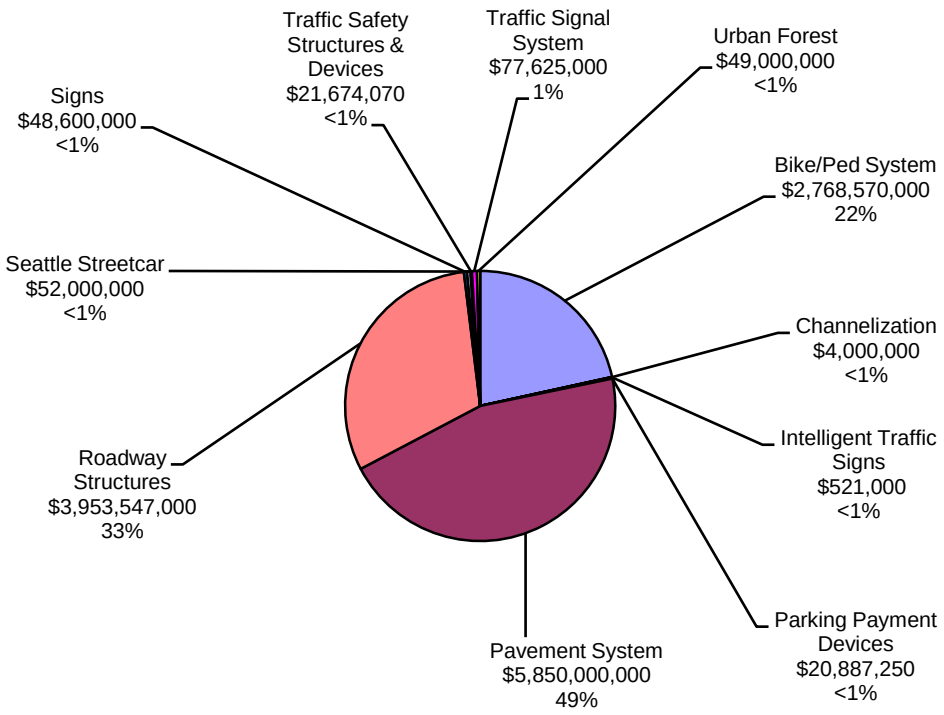
The estimated replacement value of SDOT infrastructure assets is in excess of $13.0 billion. Pavement and roadway structures assets represent 75% of this total. The third largest asset class is the Bicycle and Pedestrian System, which includes the sidewalk system, and represents 22.6% of the total. The assets in the other nine (9) asset classes make up the remaining 1.4%.

The value of the ROW is not included in this total.

2010 Infrastructure Replacement Value

By Asset Class

Total Value $13.B



Unmet Funding Need:

"Unmet funding need" is the cost to raise all existing assets to good condition and sustain them at that level. When new assets are installed to address an infrastructure need or to replace existing assets, the

requirements to fund the installation/replacement and sustain it in good condition are also included in determining unmet funding need.

BTG has provided funding to reduce the unmet funding need for many SDOT assets. However, funding gaps persist. Factors which contribute to the unmet funding need are consistent across assets:

- ✓ When new assets are installed, corresponding maintenance budgets are not always increased to allow SDOT to sustain the new assets in good condition.
- ✓ Funding has not traditionally been available to establish replacement programs for assets so that they can be replaced when they reach the end of their useful lives.
- ✓ Many assets are maintained based on customer request rather than through programmed maintenance. Condition of these assets is generally unknown until they reach the point where the asset must be replaced, which is generally more expensive than the cost of performing timely, routine maintenance.
- ✓ Funding to maintain expensive assets does not compete well in the budget process.

The top four (4) asset classes for unmet funding need are:

- ✓ Roadway Structures for annual bridge maintenance, rehabilitation or replacement of bridges and retaining walls, including the Alaskan Way seawall, and fill or restoration of areaways;
- ✓ Bicycle and Pedestrian System to perform permanent repairs on sidewalks, complete the sidewalk network, construct additional trails, and rehabilitate or replace stairways;
- ✓ Pavement System for rehabilitation of non-arterial pavement; and
- ✓ Urban Forest to preserve the condition of these assets and raise them to good condition.

Funding is sufficient for most of the assets in the Traffic Safety Devices and Structures asset class.

Arterial pavement's funding needs to be reassessed based on current construction costs.

Funding needs for several of SDOT assets have not been clearly assessed as of the date of this report:

- ✓ Seattle Streetcar – A major maintenance program will be established in the next two (2) years
- ✓ Assets in the Intelligent Traffic Signs and the Traffic Signal System asset classes
- ✓ Pavement markings: These are very short-lived and are not considered in the same category as infrastructure such as pavement, signals, or bridges. Generally, SDOT attempts to remark on an annual basis the majority of the channelization markings such as lane lines. Funding is adequate for the arterial work on channelization markings.

SDOT Transportation Infrastructure Assets
Status, Condition, Replacement Value

Asset Class/Asset	Inventory Status	Replacement Value	Condition			
			Good	Fair	Poor	TBD
Bike/Ped System						
Bicycle Racks	2545	$1,815,000	97.7%	1.7%	.04%	
Marked Crosswalks	4,924	$2,640,000	77%	11%	11%	<1%
Pedestrian Crossing Underpass/Tunnel	1	TBD				x
Pedestrian Viewing Platform	4	TBD				x
Sidewalks	33,226 block faces	$2,795,000,000	76.6%	19.6%	3.8%	**
Stairways	494	$37,290,000	48% *	30% *	22% *	
Trails	39.4 lane miles	$84,500,000				x
Transit Loading Platforms	TBD	TBD				x
Channelization						
Pavement Markings	TBD	$4,300,000				x
Roundabout	0	---				---
Intelligent Traffic Signs						
Dynamic Message Signs	35	$3,750,000				x
Radar Speed Signs	20	$150,000	100%			
Parking Payment Devices						
Pay Stations	2,207	$27,700,000	100%			
Parking Meters	815	$470,000		100% *		
Pavement						
Arterial	1,534 lane miles	$2,800,000,000	70%	15.7%	14.3%	
Non-arterial	2,412 lane miles	$3,500,000,000				x
Real Property						
Parcels	106	TBD				---
Buildings	8	TBD				---
Regulated Assets						
Shoreline Street Ends	149 (e)	N/A				---
Roadway Structures						
Areaway Street Walls	236	$158,000,000	3%	57%	19%	21%
Bridges	96	$1,500,000,000	52%	10%	39%	
Bridge Hydrant Vaults	13	TBD				x
Retaining Walls	582	$1,824,000,000	43%	37%	20%	
Seattle Streetcar						
Streetcar System	1	$55,760,000	100%			
Signs						
Sign Assemblies	137,189	$52,100,000				x
Structures other than Roadway						
Air Raid Siren Tower	1	TBD				N/A
Piers	1	TBD				x
Traffic Safety Devices & Structures						
Chicanes	22	$306,000				x
Crash Cushions	40	$746,000	80%	15%	5%	
Curb Bulbs	92	$2,452,000				x
Guardrails	73,000 lin ft est,in 811 units	$3,255,000	44%	47.5%	7%	1.5%
Median Islands	TBD	TBD				x
Speed Cushions	19 sets	$224,000				x
Speed Dots	2	TBD				x
Speed Humps	73	$214,000				x
Traffic Circles	1,022	$10,852,000	95.7%	3.9%	.002%	
Traffic Signal System						
Beacons	280 e	$2,445,000				x
Cameras	226	$1,818,000				x
Traffic Management Center	1	TBD				x
Traffic Signal Assemblies	1, 051	$78,825,000	8%	20%	68%	<1%
Traffic Signal Communication System	TBD	TBD				x
Urban Forest						
Landscaped Areas	5,371,000 square feet (e)	$33,309,000	30% *	30% *	30% *	10% *
Trees	37,142 (e)	$18,895,000	28% *	66% *	5% *	
Irrigation	TBD	TBD				x

(e) = estimated count * = estimated condition ** = condition based on sample survey